

Historic, Archive Document

Do not assume content reflects current scientific knowledge, policies, or practices.

A464.07
F764
Cop. 2

UNITED STATES DEPARTMENT OF AGRICULTURE
FOREST SERVICE

U. S. DEPT. OF AGRICULTURE
NATIONAL AGRICULTURAL LIBRARY

JUL 23 1964

CURRENT SERIAL RECORDS

WHITE PINE BLISTER RUST CONTROL

REGION SEVEN

CALENDAR YEAR 1963



WHITE PINE BLISTER RUST CONTROL IN THE EASTERN REGION
ANNUAL REPORT FOR 1963

United States Department of Agriculture

FOREST SERVICE

Region 7

Upper Darby, Pa.

WHITE PINE BLISTER RUST CONTROL

U. S. FOREST SERVICE - REGION 7

CALENDAR YEAR - 1963

Close cooperation between federal and state personnel in Region 7 have, over the years, brought white pine blister rust under control on nearly twelve million acres with over 94 percent of the total control area being placed on maintenance.

In 1963 white pine blister rust control in Region 7 was conducted on State and Private lands in the States of Maine, New Hampshire, Massachusetts, Vermont, Connecticut, New York, Pennsylvania, Maryland, Virginia and West Virginia; on National Forest lands - the White Mountain, Massabesic Experimental Forest, George Washington, Jefferson, Monongahela, and Allegheny; on National Park lands - the Acadia and the Shenandoah.

COOPERATIVE BLISTER RUST CONTROL

Accomplishments

Acres worked on ribes eradication, acres covered on surveys, ribes destroyed and man days expended are shown below by ownership.

Ownership	Acres Worked on Ribes Eradication			Acres Covered on Survey	Thousands of Ribes Destroyed	Total Man Days
	Pre-Maint.	Maint.	Total	Pre-Maint. & Maint.		
(1) State & Private	41,760	67,293	109,053	1,884,111	1,603	22,906
National Forests	2,806	2,862	5,668	77,422	44	1,117
National Parks	588	1,492	2,080	8,042	44	394
Total	45,154	71,647	116,801	1,969,575	1,691	24,417

(1) Includes work by APW Crews.

Surveys make up the bulk of work in most of the states. Surveys are made by systematic sampling or random scouting using existing pine area field maps, County maps, U.S.G.S. Topographic quadrangle sheets and aerial photographs to plot in white pine and ribes conditions ground features, and tie in ground control. Surveys are used mainly to evaluate maintenance areas as they come up for scheduled working to determine white pine conditions, ribes conditions, and status of infection. All states have been urged to carefully evaluate each area and to extend the period of maintenance examination or to eliminate from any further work those areas or portions of areas where pine is of poor quality, low stocking, no ribes regeneration and no pine infections. Eventually most control work will be confined to high priority areas within medium and high rust hazard zones. Protective zone acreage is gradually being reduced by evaluating the rust potential hazard on maintenance areas. In proportion of white pine to control acreage there was a reduction of 83,455 acres of protective zone in 1963.

The only direct treatment of white pine was performed in New York State by regular and APW crews. All canker work was done on high priority state owned lands, much of which will be developed for recreational use. A total of 24,007 trees were treated on 862 acres using 1507 man days.

Nursery sanitation work was performed in Maine, New Hampshire, Vermont, Connecticut, New York, Pennsylvania and West Virginia. In Maine 40 acres were worked at Greenbush State Nursery. In New York the regular annual sanitation work was conducted at one nursery in Lowville and two nurseries at Saratoga. In Vermont two State nurseries at Essex Junction were checked as well as the State Forest Nursery at Boscawen. On the Penn Forest Tree Nursery in Pennsylvania ribes were eradicated from 10 acres within the sanitation zone. The new Clements State Tree Nursery in West Virginia was surveyed and found to be ribes free.

Information and education activities were carried on in all states conducting white pine blister rust control by both federal and state district leaders. Numerous items were published in local newspapers, talks to individuals and groups, radio talks, show-me trips, and exhibits placed. A good deal of time was spent on safety meetings - stressing safe driving, care in the woods while working alone or in groups and careful use of hand tools and chemicals.

Seasonal Employment

On State and Private lands the peak seasonal employment was 375. The highest, seasonal employment on State and Private lands was in New York State with a total of 151, including 52 employed on the Accelerated Public Works Program. Maine had the second largest number of seasonal employees with 82. On Federal lands 46 were employed on National Forests and 6 on National Parks, bringing the total number of seasonal employees for all programs to 427.

The APW Program in New York State operated in 9 counties designated as "Distressed Areas".

Chemical Ribes Eradication

Practically all ribes eradication crews are now using 2,4,5-T in fuel oil. Usual treatment is by basal spray. A new chemical put out by Dow Chemical Company was tested in New Hampshire by R. E. Curtis in 1963. The chemical (called TORDON) tested was a liquid concentrate, 22-K, and in pellet form, 10-K. A concentration of 1/2 ounce of liquid 22-K in one gallon of water indicated 100 percent kill. Tordon will be more widely tested in 1964 but no recommendations will be made until final examinations are made on the 1963 tests. The Tordon pellets apparently killed as well as the liquid but are less selective and may kill or damage desirable plants surrounding the bush. The big advantage of Tordon is that it thoroughly mixes with water and permanently stays in solution. It is also less messy to use than 2,4,5-T in fuel oil which many men object to carrying in their cars. In 1964 tests will be made using the now commercially available Tordon 101. Active ingredients of Tordon 101 herbicide are 4-amino-3,5,6-trichloropicolinic acid and 2,4-dichlorophenoxyacetic acid. Tordon 22-K is not yet commercially available.

Antibiotic Treatments

By the end of 1964 we expect to have a complete report on all antibiotic tests made in the Region. During the spring of 1964 as many plots as possible will be examined not covered by Donald Brown in New England and New York State before he was transferred to Region One. The Southern Zone reports a 100 percent failure in all treatments. No additional work using antibiotics is contemplated. Immunity of out-plantings of nursery trees from blister rust treated with phytoactin root drench before planting cannot be fully determined for another few years.

Rust Resistant White Pines

Many of the better white pine planting sites in the Region fall within medium to high rust hazard zones with the result that many states continue to plant white pine in such areas. Protection of such planted stock from infection relies entirely on the destruction of ribes and continued maintenance. More work is needed in developing rust resistant white pines with an inexpensive method of propagating same for distribution from tree nurseries. In 1953 a number of rust resistant white pines furnished by Dr. Riker were planted in a very high rust hazard location on the George Washington National Forest in Virginia. Surviving trees show high resistance. Most of the control trees are either dead or dying from blister rust. It is, of course, more desirable to develop rust resistant white pines from parents of local origin.

Cooperative Relations

Cooperative white pine blister rust work in the Region involved a total of 242 towns in Maine, New Hampshire, Vermont and Connecticut; and the Conservation Department including 15 counties in the State of New York. The remaining states are financed statewide. Control operations are much more flexible where financing is statewide.

During 1963 very good cooperative relations existed between our personnel and state, local, private and other federal agencies and individuals. A good portion of the federal and state district leader's time is spent contacting private landowners.

Infection Conditions

As in 1962 we had another season of prolonged drought periods which is again considered a major factor in the low incidence of infection on ribes. Reports came in stating that in many locations infected ribes leaves dried up and fell off before telia formation. New infections on white pine were also low throughout most of the Region. Exceptions were in scattered locations where rust hazard conditions are extremely high. In Virginia and West Virginia a number of pine areas discontinued years ago because of poor stocking now meet the minimum stocking requirements mainly due to release cuttings. A rather high incidence of infection was found in many of these areas. However, enough good crop trees per acre on most of these areas warrant control from blister rust.

White Pine Conditions

The white pine acreage within the blister rust control area has been gradually increasing from year to year. The loss of pine acreage due to fire, disease, insects, land clearing, etc., is more than offset by new areas being brought under control through natural seeding on abandoned farm lands, release cuttings and plantings. From 1958 through 1962 the white pine acreage increase amounted to 5,575. The 1963 reports showed a marked increase of 95,513 acres over that reported in 1962.

Direct seeding of burned-over areas to white pine appears to be successful on national forest lands in the Southern Zone.

Status of Ribes Eradication

It is significant to note that over 30 percent of the total control acreage has been greenlined. This represents over 3,800,000 acres which will need no further work. This figure is gradually rising each year (221,537 acres over that reported in 1962) and will continue to increase as closer attention is focused on evaluating maintenance areas where examinations show little or no ribes regeneration, no recent pine infection and where rust hazard conditions are generally low.

Special Studies

The study "Relating Climate to Eastern White Pine Blister Rust Infection Hazard" by John W. Charlton was published early in 1963. The Northeastern Forest Experiment Station collaborated in reviewing, editing and preparing the final format prior to publication.

The main purpose of this study was to show that certain climatic factors as night and day temperatures, moisture and air movement where properly interrelated within specific ranges can cause heavy infection where white pine and inoculum are present. Other factors involved are altitude, land form, relief and soils, exposure and vegetation and cover.

In connection with the white pine economic study being made by Mr. Robert Marty of the Northeastern Forest Experiment Station our blister rust field men ran rust incidence surveys from randomly selected white pine areas located in low, medium and high rust hazard zones.

The surveys were completed and data are being analyzed by Mr. Marty. In 1964 another survey will be run to establish the extent of pest control opportunities in the young white pine stands of Region 7. The feasibility and profitability of both blister rust and weevil control will be estimated for each of the sample areas. This is expected to be our final participation relative to the White Pine Economic Study.

Special Surveys

Rust hazard appraisal surveys based on Charlton's study were run in a number of the states. Guidelines and rating factor sheets were drawn up and special training sessions were held in connection with their use. Numerous discrepancies turned up in the rating factor sheets which we are now trying to iron out.

Other Activities

Our blister rust personnel spent a portion of their time on forest pest control activities other than blister rust. The more important included spruce budworm control, balsam woolly aphid, oak wilt control, white pine weevil control, Fomes annosus studies, special aerial detection surveys and establishing insect detection observation areas. In western Pennsylvania, District Leader DeBerti reported treating 250 acres of native and planted white pine for weevil control.

Personnel

We now have 12 federal BRC district leaders, one BRC forester stationed in Amherst, one area leader in Albany, New York and one man on special studies in New Hampshire. In Virginia we have a forestry aid who besides his blister rust duties assists the zone entomologists and pathologist in routine laboratory and field work. For this latter work he is paid out of forest pest control funds. Administration of BRC work will eventually be turned over to the states as in the case of New Hampshire. Besides our regular BRC personnel we have some 51 state employed men directly concerned with BRC work in the field. These men are designated as district leaders, technicians, foremen, plant pest suppressors, aids, etc., depending in which state the men are employed.

Personnel Changes

We were saddened by the sudden death of W. S. Codman on October 26, 1963. Wyn was District Leader stationed in Laconia, New Hampshire.

Mr. John W. Charlton, who had been assigned to special studies retired on December 27, 1963. His residence is in Gloversville, New York. Jack had 38 years of federal service most of which was on blister rust.

Mr. Noah H. Plaugher who has over 10 years blister rust experience as crew leader and foreman in Virginia received a permanent appointment as Forestry Aid. Plaugher works out of the Southern Forest Pest Control Zone office.

Mr. David W. Morison, Pathologist, assigned to the Regional Office resigned May 3, 1963. Dave is employed in land development work in South Carolina.

Mr. John L. Rauschenberger, Pathologist, assigned to the Southern FPC Zone went on furlough March 10, 1963 to enter military service.

Mr. Craig T. Weidensaul, Pathologist, assigned to the Southern FPC Zone to fill in for Mr. Louis Shain who is on leave without pay to attend North Carolina State College for his Ph.D., went on furlough December 20, 1963 to enter military service. Craig will be back with us in May 1964. At the present time we have only one Forest Pathologist, Mr. Alfred Tegethoff, who works out of the Northern FPC Zone.

Mr. Bruce Baker, Entomologist, assigned to the Northern FPC Zone went on furlough November 13, 1963 to enter military service. Bruce is expected to be back with us after completing his two years in the military service.

Mr. Robert P. Ford was appointed to the position of Forester on the Northern FPC Zone October 14, 1963. Bob is a Forest Entomologist.

In the Southern FPC Zone, Mrs. Bernice M. Yeakle was hired as Clerk-Stenographer, April 1, 1963. Bernice used to work in the Blister Rust Control Regional Office in Harrisonburg, Virginia, when blister rust control was under the old Bureau of Entomology and Plant Quarantine.

Mr. Joseph B. Pike, Jr. was transferred from the Bridgton BRC District in Maine on March 17, 1963, to the Northern FPC Zone office. Joe provides technical assistance on BRC and other FPC matters in the states covered by our Northern Zone office.

Mr. David Stewart, employed by the State of Maine on blister rust control took over the administration of the Bridgton District when Joe Pike was transferred to the Northern FPC Zone office in Amherst, Massachusetts.

TABLE I

SUMMARY OF RIBES ERADICATION AND SURVEY WORK IN THE EASTERN REGION 1963

Control Operat- ion	Acres Worked(Ribes Eradication)				Man Days Erad.	Thousands Of Ribes Destroyed	Acres Surveyed	Survey Man-Days
	Initial	Rework	Maint	Total				
Work on State and Private Lands								
Maine	300	606	1,622	2,528	1,218	241	291,376	2,788
N. H.	-	116	770	886	192	225	387,197	2,833
Vt.	1,755	580	1,131	3,466	353	74	102,284	900
Mass.	-	473	1,193	1,666	251	13	46,967	513
Conn.	-	-	12,378	12,378	133	9	93,768	253
N.Y. (Reg & APW)	7,700	17,356	37,799	62,855	7,803	720	593,367	3,602
Penna.	1,302	575	347	2,224	278	29	152,587	633
Md.	3,187	395	-	3,582	685	167	7,443	16
Va.	997	2,083	2,234	5,314	829	26	139,085	349
W.Va.	1,710	2,625	9,820	14,155	1,738	99	70,037	449
Total S&P	16,951	24,809	67,294	109,054	13,480	1,603	1,884,111	12,336
Work on National Forest Lands								
Massa- betic Exp. For.Me.	-	-	3	3	1	(293)	1,050	12
White Mtn.Me.	-	-	2	2	1	(237)	525	17
Allegh- ney-Pa.	-	-	-	-	-	-	4,930	12
G.Wash. Va.	-	1,266	930	2,196	259	8	48,507	168
G. Wash. W. Va.	-	1,065	260	1,325	164	19	6,366	35
Jeff. Va.	-	-	242	242	51	1	1,394	3
Monon. W.Va.	355	475	1,425	2,255	268	16	14,650	116
Total N.F.	355	2,806	2,862	6,023	744	44	77,422	363
Work on National Park Lands								
Acadia Me.	-	-	310	310	23	(304)	4,232	32
Shenan- doah, Va.	588	-	1,182	1,770	302	44	3,810	37
Total N.P.	588	-	1,492	2,080	325	44	8,042	69
Total All Lands	17,894	27,615	71,648	117,157	14,549	1,691	1,969,575	12,768

TABLE 2

Direct Treatment of White Pine in New York State 1963 (Pruning Cankers)

Program	Acres Covered	No Trees	Man-Days
Regular	142	9,678	263
APW	720	14,329	1,245
Total	862	24,007	1,508

Canker elimination work was performed on State and County reforestation areas and on State owned campsites. Branch cankers were removed on all non fatally infected trees. Fatally infected trees were cut down.

TABLE 3

STATUS OF RIBES ERADICATION IN THE EASTERN REGION - AS OF DECEMBER 31, 1963

Control Operation	Acres White Pine	Acres Control	Acres Initially Worked	Acres On Maint.	% On Maint.	Pre-Maint. Work		Acres Requiring No Further Work
						Acres Initial	Acres Remain Rework	
Work done on State and Private Lands								
Maine	977,883	2,118,981	2,067,510	1,939,750	91.5	51,471	127,760	167,681
N. H.	1,312,696	2,460,273	2,459,713	2,409,391	97.9	560	50,322	368,848
Vt.	173,591	635,450	624,143	554,023	87.2	11,307	70,120	49,142
Mass.	579,987	1,398,889	1,398,744	1,374,359	98.2	145	24,385	1,087,249
Conn.	109,761	468,324	468,324	468,324	100.	-	-	326,185
R. I.	64,018	147,778	147,778	147,778	100.	-	-	147,778
N. Y.	694,867	1,940,726	1,928,525	1,782,990	91.9	12,201	145,535	264,367
N. J.	3,771	16,742	16,742	16,742	100.	-	-	16,742
Penna.	105,678	461,963	459,818	438,766	95.0	2,145	21,052	28,520
Del.	242	6,186	6,186	6,186	100.	-	-	6,186
Md.	74,097	177,843	177,843	152,444	85.7	-	25,399	54,553
Va.	538,626	1,348,278	1,346,988	1,320,848	98.0	1,290	26,140	847,058
N. Va.	248,335	501,942	498,931	465,525	92.7	3,011	33,406	136,891
Ky.	31,199	114,312	114,312	114,282	100.	-	30	114,282
Total S&P	4,914,751	11,797,687	11,715,557	11,191,408	94.9	82,130	524,149	3,615,482

TABLE 3 (Continued)

STATUS OF RIBES ERADICATION IN THE EASTERN REGION - AS OF DECEMBER 31, 1963

Control Operation	Acres White Pine	Acres Control	Acres Initially Worked	Acres On Maint.	% On Maint.	Pre-Maint. Work Re.			Acres Requiring No Further Work
						Acres Initial	Acres Rework		
Work done on National Forest Lands									
White Mt.Me.	1,753	3,371	3,116	3,116	92.4	255	-	-	-
White Mt.N.H.	1,213	2,194	2,194	2,194	100.	-	-	-	-
Gr.Mt. Vt.	448	1,653	1,653	1,653	100.	-	-	-	-
Alleg. Pa.	1,047	4,545	4,235	3,960	87.1	310	275	-	-
Geo.Wash. Va.	192,904	406,566	406,343	385,613	94.8	223	20,730	114,027	
Geo. Wash. West. Va.	43,193	69,463	69,463	66,412	95.6	-	3,051	3,747	
Monon.W.Va.	48,599	89,624	89,624	87,074	97.1	-	2,550	24,607	
Jeff. Va.	64,642	124,944	124,944	120,741	94.9	-	4,203	53,633	
Cumb. Ky.	16,980	32,002	32,002	32,002	100.	-	-	31,927	
Total N.F. Lands	370,779	734,362	733,574	702,765	95.6	788	30,809	227,941	
Work done on National Park Lands									
Acadia Me.	3,500	17,318	17,318	17,318	100.	-	-	-	
Saratoga Battlefield N. Y.	145	1,550	1,550	1,550	100.	-	-	-	
Hyde Park N. Y.	12	105	105	105	100.	-	-	105	
Shenandoah Va.	3,813	15,591	14,961	13,610	87.2	630	1,351	-	
Blue Ridge Va.	507	1,780	1,780	1,583	88.0	-	197	-	
Total N.P Lands	7,977	36,344	35,714	34,166	94.0	630	1,548	105	
All work done in Eastern Region									
All Control Operations	5,293,507	12,568,393 (1)	12,484,845 (1)	11,928,339 (1)	94.9 percent of total control acreage	83,548	556,506	3,843,528 (1)	

TABLE 4

SUMMARY OF EXPENDITURES - FEDERAL AND COOPERATIVE

CALENDAR YEAR 1963

State and Private Lands

State	USDA FOREST SERVICE			Cooperative Funds (Direct & Indirect)	Total All Funds
	720	411	Total		
Maine	31,118	9,505	40,623	41,625	82,248
N. H.	21,882	12,580	34,462	51,332	85,794
Vermont	13,541	10,600	24,141	18,962	43,103
Mass.	13,166	3,313	16,479	15,424	31,903
Conn.	1,554	1,092	2,646	14,234	16,880
N. Y.	41,960	42,232	84,192	216,299	300,491
Penna.	19,557	5,865	25,422	27,834	53,256
Md.	5,397	1,671	7,068	5,178	12,246
Va.	13,178	5,481	18,659	13,834	32,493
West Va.	19,913	9,160	29,073	25,427	54,500
Total S&P	181,266	101,499	282,765	430,149	712,914

Accelerated Public Works Program

State	720	APW	Total	Cooperative Funds	Total All Funds
New York	5,445	39,538	44,983	39,538	84,521

National Forest Lands

Forest		(1) 042	Total		Total All Funds
White Mt.	-	913	913	-	913
Massabesic Exp. For.	-	203	203	-	203
Green Mt.	-	557	557	-	557
Allegheny	-	1,278	1,278	-	1,278
Geo. Wash.	-	17,001	17,001	-	17,001
Jefferson	-	1,561	1,561	-	1,561
Monongahela	-	8,563	8,563	-	8,563
Total N. F.	-	30,076	30,076	-	30,076

(1) Includes 720 funds

TABLE 4 (Continued)

SUMMARY OF EXPENDITURES - FEDERAL AND COOPERATIVECALENDAR YEAR 1963

National Park Lands				
Park	720	National Park	Total	Total All Funds
Acadia	300	920	1,220	1,220
Shenandoah	1,290	6,867	8,157	8,157
Total	1,590	7,787	9,377	9,377

All Lands								
Units	720	411	042	Nat'l Park	APW	Total Federal Funds	Cooper- ative Funds	Total All Funds
State & Private	181,266	101,499				282,765	430,149	712,914
APW	5,445	-	-	-	39,538	44,983	39,538	84,521
Nat'l Forest	-	-	30,076	-	-	30,076	-	30,076
Nat'l Parks	1,590	-	-	7,787	-	9,377	-	9,377
Totals	188,301	101,499	30,076	7,787	39,538	367,201	469,687	836,888

